



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,621	02/02/2004	Jacob Klimstra	AWEK 2831	2309
7812	7590	12/20/2005	EXAMINER	
SMITH-HILL AND BEDELL, P.C. 16100 NW CORNELL ROAD, SUITE 220 BEAVERTON, OR 97006			JOHNSON, EDWARD M	
			ART UNIT	PAPER NUMBER
			1754	
DATE MAILED: 12/20/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/770,621

Applicant(s)

KLIMSTRA ET AL.

Examiner

Edward M. Johnson

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1754

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following, is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by JP '826.

Applicant claims a method of operating an internal combustion engine having an oxidation catalyzer, comprising: operating the engine and directing exhaust gases of the internal combustion engine through the oxidation catalyzer and thereby heating the catalyzer, and subsequently stopping the engine and regenerating the catalyzer by supplying reducing gas to the catalyzer while the catalyzer is still sufficiently hot for regeneration to occur.

Saito et al. discloses a process for the efficient denitration by contacting a nitrogen-oxide gas with a catalyst in the presence of oxygen to oxidize and absorb nitrogen oxides by the catalyst and stopping the exhaust gas from an engine (stopping the engine) when absorbing efficiency is lowered to

Art Unit: 1754

allow a reducing gas, such as hydrogen to flow and performing the reductive removal of accumulated nitrogen oxides, as the catalyst is regenerated. The reducing agent is produced by a process that is independent of operation of the engine (see abstract).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '826 in view of Debbage '885.

Applicant claims with respect to claims 2 and 3, wherein measuring the temperature of the oxidation catalyzer and controlling supply of reducing gas to the catalyzer is in dependence on the measured temperature of the catalyzer. The teachings of Saito et al. have been discussed with respect to claims 2 and 3, however the reference does not disclose wherein temperature determines controlling the supply of reducing gas.

Debbage et al. teaches an apparatus for removing contaminants from a gaseous stream. Debbage et al. continues to disclose using a catalyst absorber, which absorbs oxidized oxides of nitrogen (see abstract and col. 2, lines 64-67). Debbage et al. continues to disclose wherein the regeneration is accomplished by passing a reducing gas through the catalyst absorber, and wherein the method of gaseous regeneration are employed depending on the temperature zone in which the catalyst absorber resides and wherein the supply of the reducing gas may be terminated based on the measured temperature (col. 6, lines 1-13).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the teachings of Saito et al., based on the teachings of Debbage et al., by measuring the temperature of the oxidation catalyzer and controlling the supply of reducing gas to the catalyzer in dependence on the measured temperature of the catalyzer, because Debbage et al. discloses wherein the regeneration of a catalyst is accomplished by passing a reducing gas through the catalyst absorber, and wherein the method of gaseous regeneration is dependent upon the temperature zone in which the catalyst absorber resides. Debbage continues to teach wherein the supply of the reducing gas may be terminated during the regeneration process, based on the

Art Unit: 1754

temperature. Such modification would have been obvious to one of ordinary skill in the art, because one of ordinary skill in the art, would have expected a process for reducing nitrogen oxides as taught by Debbage et al., to have been similarly useful and applicable to a process for reducing nitrogen oxides and a regeneration process for the catalyst as taught by Saito et al., which also teaches a process for reducing nitrogen oxides, and a regeneration process for the catalyst.

Regarding claim 5, Debbage discloses sorption of NO_x and SO_x (see column 6, Process Chemistry section).

Response to Arguments

5. Applicant's arguments filed 10/24/05 have been fully considered but they are not persuasive.

It is argued that Saito et al. does not disclose or suggest... regenerate the catalyst. This is not persuasive because Saito discloses a process that is independent of operation of the engine, since the engine exhaust is stopped at a certain absorbing efficiency (see abstract), which is sufficiently specific for anticipation of running the process either while the engine is stopped or running.

Conclusion

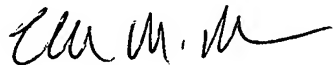
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M.

Art Unit: 1754

Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Edward M. Johnson
Primary Examiner
Art Unit 1754

EMJ